

Susitna-Watana Hydroelectric Project Terrestrial Wildlife Resources ADF&G Project Updates

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Source material - <http://www.susitna-watanahydro.org/study-plan/>

The Wildlife Study Plans will provide baseline data for assessments of potential Project impacts.



ADF&G is involved in six of the Terrestrial Wildlife Studies in the Susitna-Watana Project vicinity.

- **Moose**
- **Caribou**
- **Dall's Sheep**
- **Wolverines**
- **Large Carnivores***
- **Ptarmigan**



ADF&G is monitoring the distribution, abundance, productivity, and survival of **moose** in the Project vicinity.

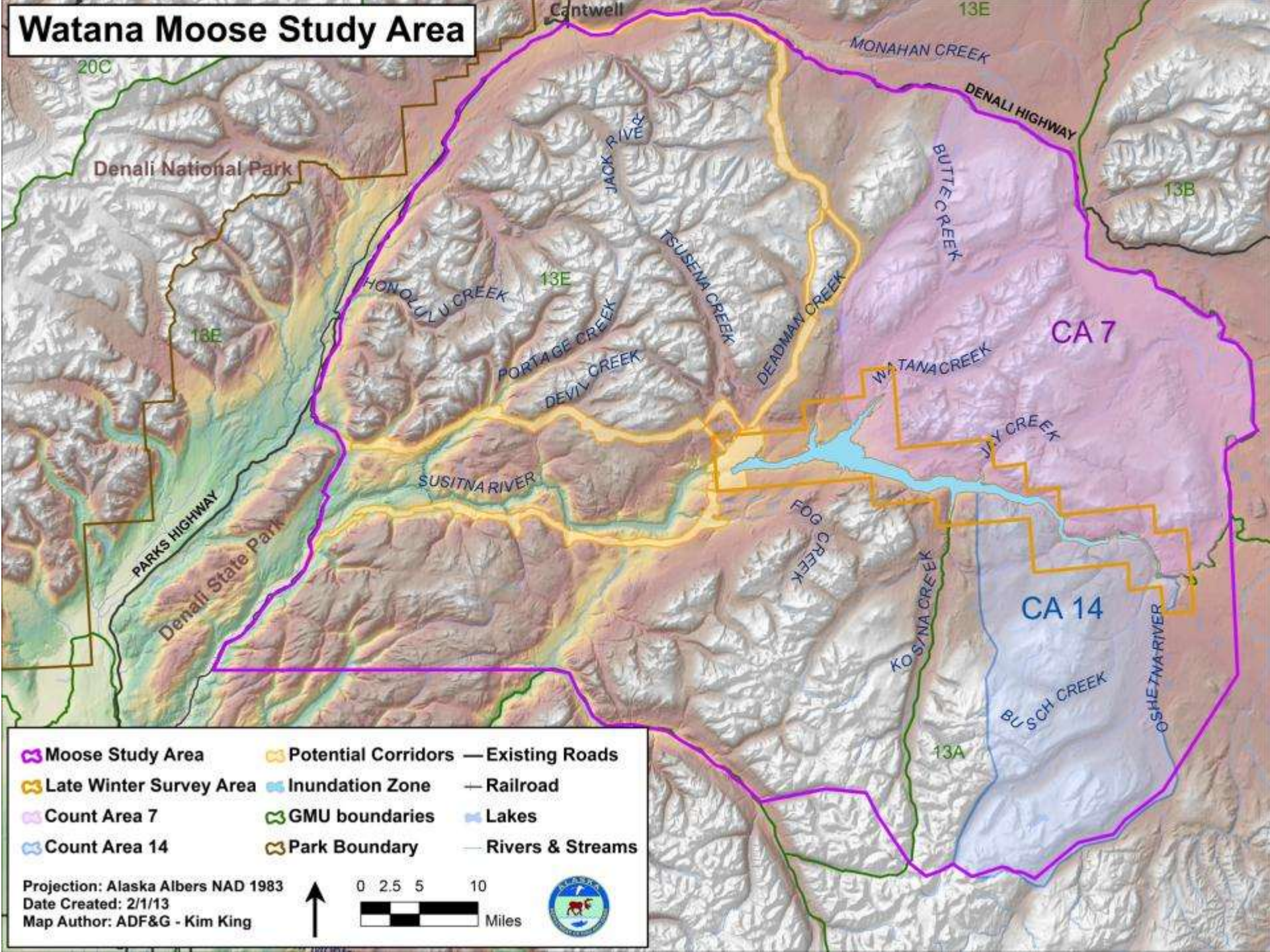
This study involves:

- Monitoring ARGOS Satellite-linked GPS collars
- Monthly Telemetry of VHF Radio collars
- A GeoSpatial Population Estimation (GSPE) Survey
- Traditional Count Area Surveys
- Late Winter Inundation Surveys
- Twinning/Calving Surveys
- Browse Surveys



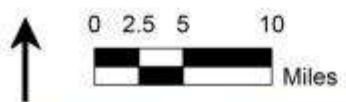
Photo by Kim King ADF&G

Watana Moose Study Area



- | | | |
|-------------------------|---------------------|------------------|
| Moose Study Area | Potential Corridors | Existing Roads |
| Late Winter Survey Area | Inundation Zone | Railroad |
| Count Area 7 | GMU boundaries | Lakes |
| Count Area 14 | Park Boundary | Rivers & Streams |

Projection: Alaska Albers NAD 1983
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100 Moose VHF and GPS collars will be deployed in the study area.



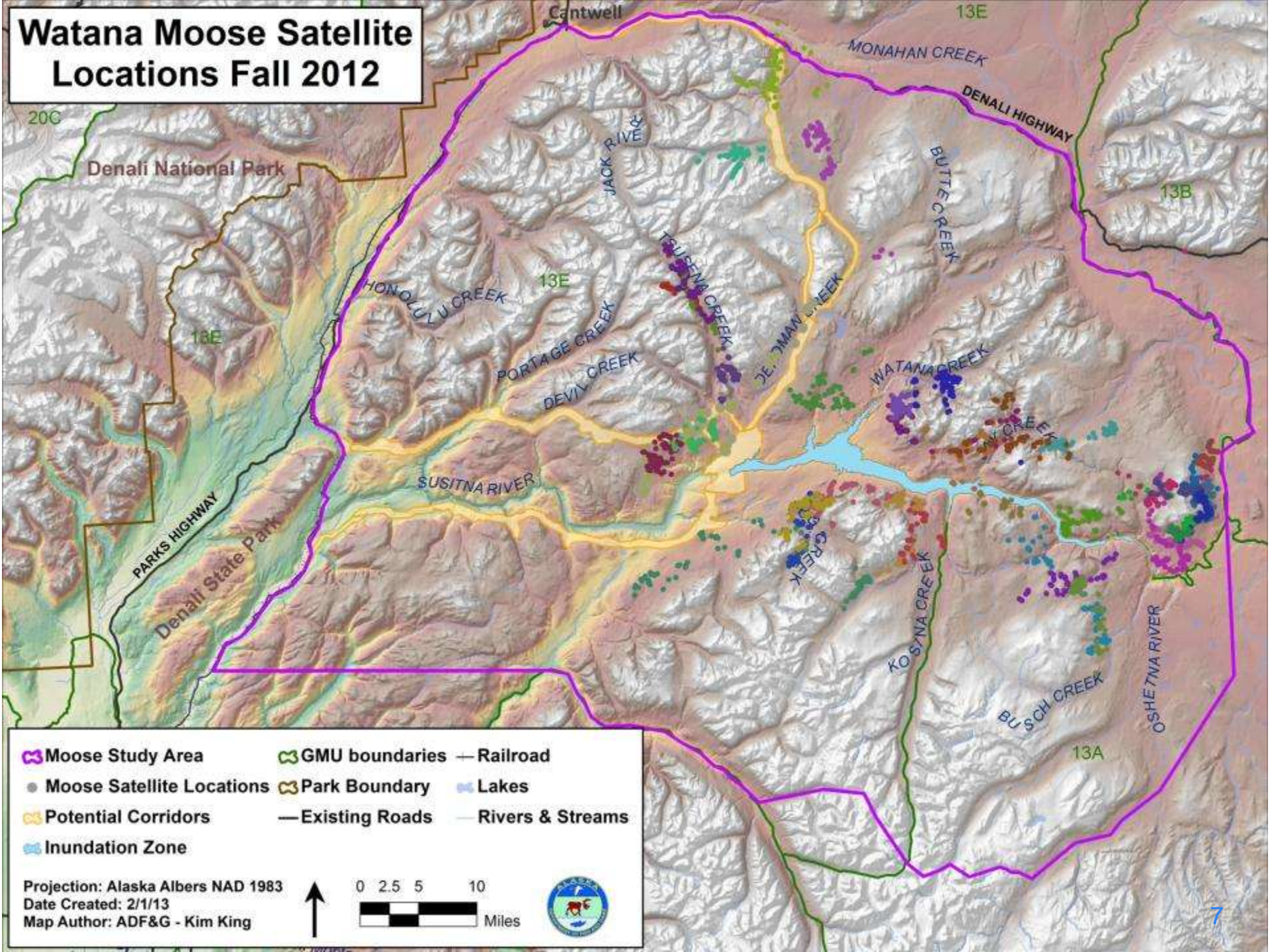
Photo by Becky Schwanke ADF&G



Photo by Becky Schwanke ADF&G

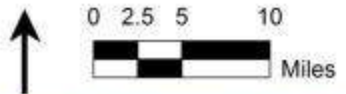
Collar Type	Sex	Oct 2012	Mar 2013	Total
VHF	Bulls	3	17	20
	Cows	7	33	40
GPS	Bulls	14	0	14
	Cows	26	0	26
TOTAL		50	50	100

Watana Moose Satellite Locations Fall 2012

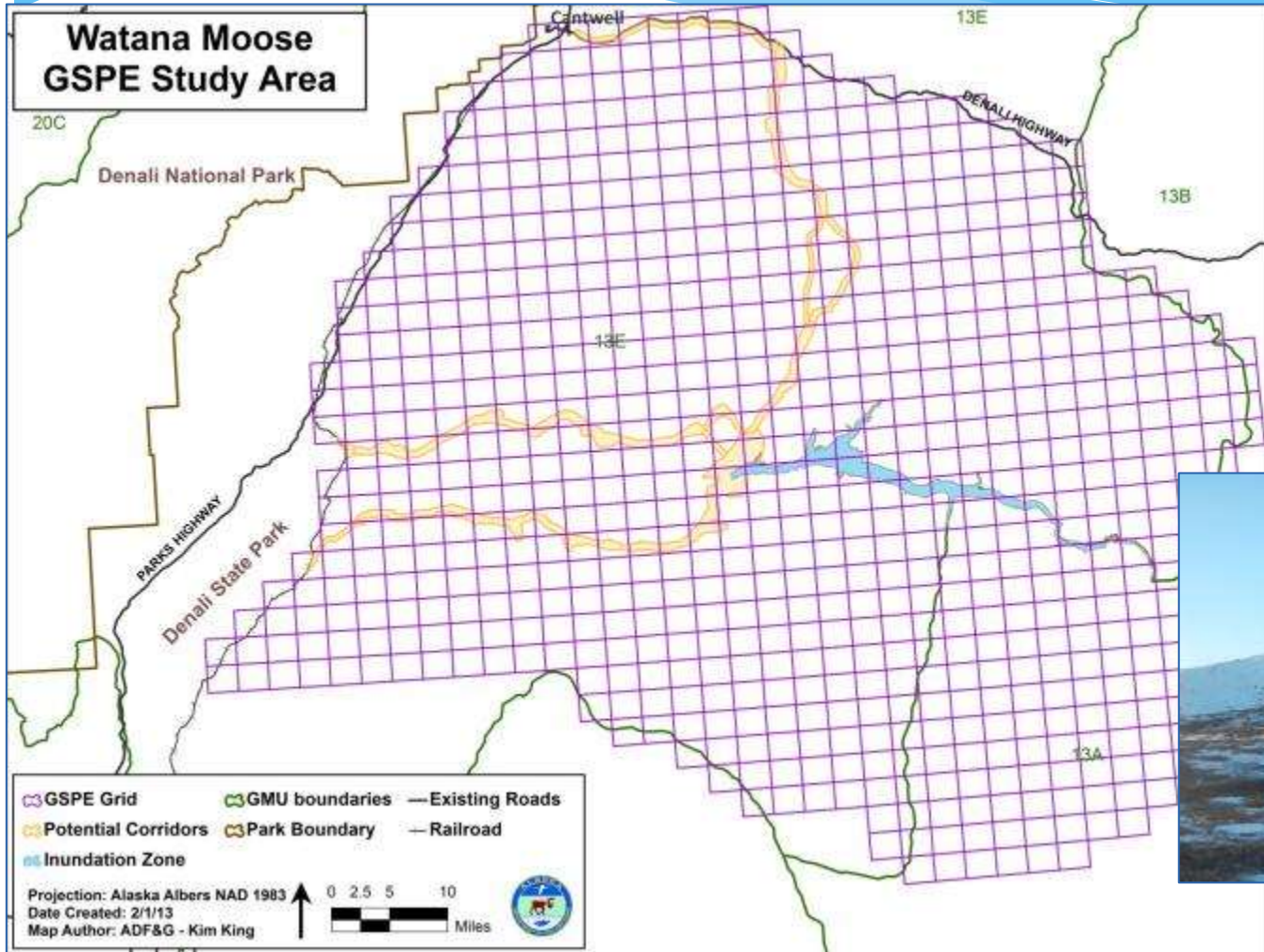


- ⬮ Moose Study Area
- ⬮ GMU boundaries
- Railroad
- Moose Satellite Locations
- ⬮ Park Boundary
- ⬮ Lakes
- Potential Corridors
- Existing Roads
- Rivers & Streams
- ⬮ Inundation Zone

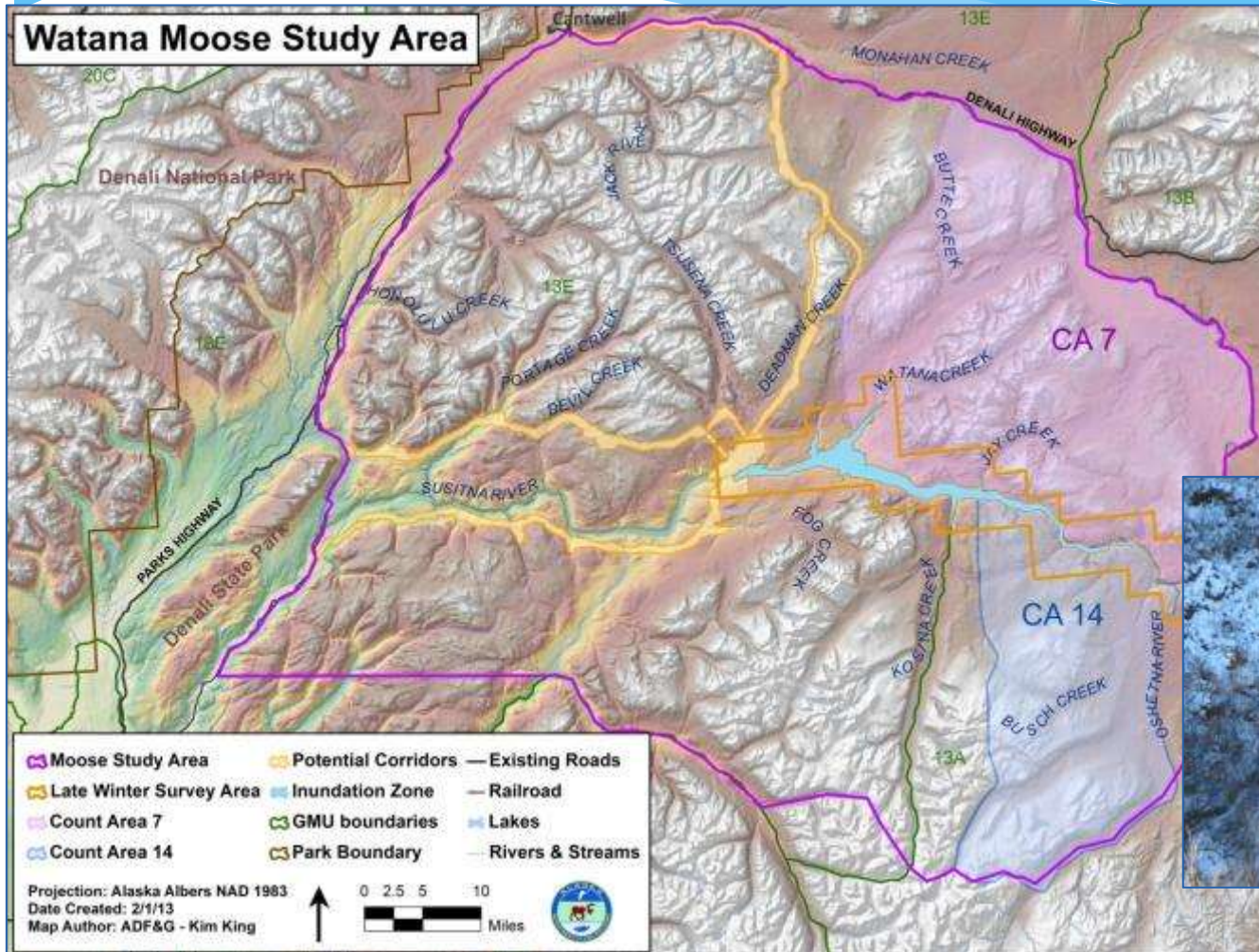
Projection: Alaska Albers NAD 1983
 Date Created: 2/1/13
 Map Author: ADF&G - Kim King



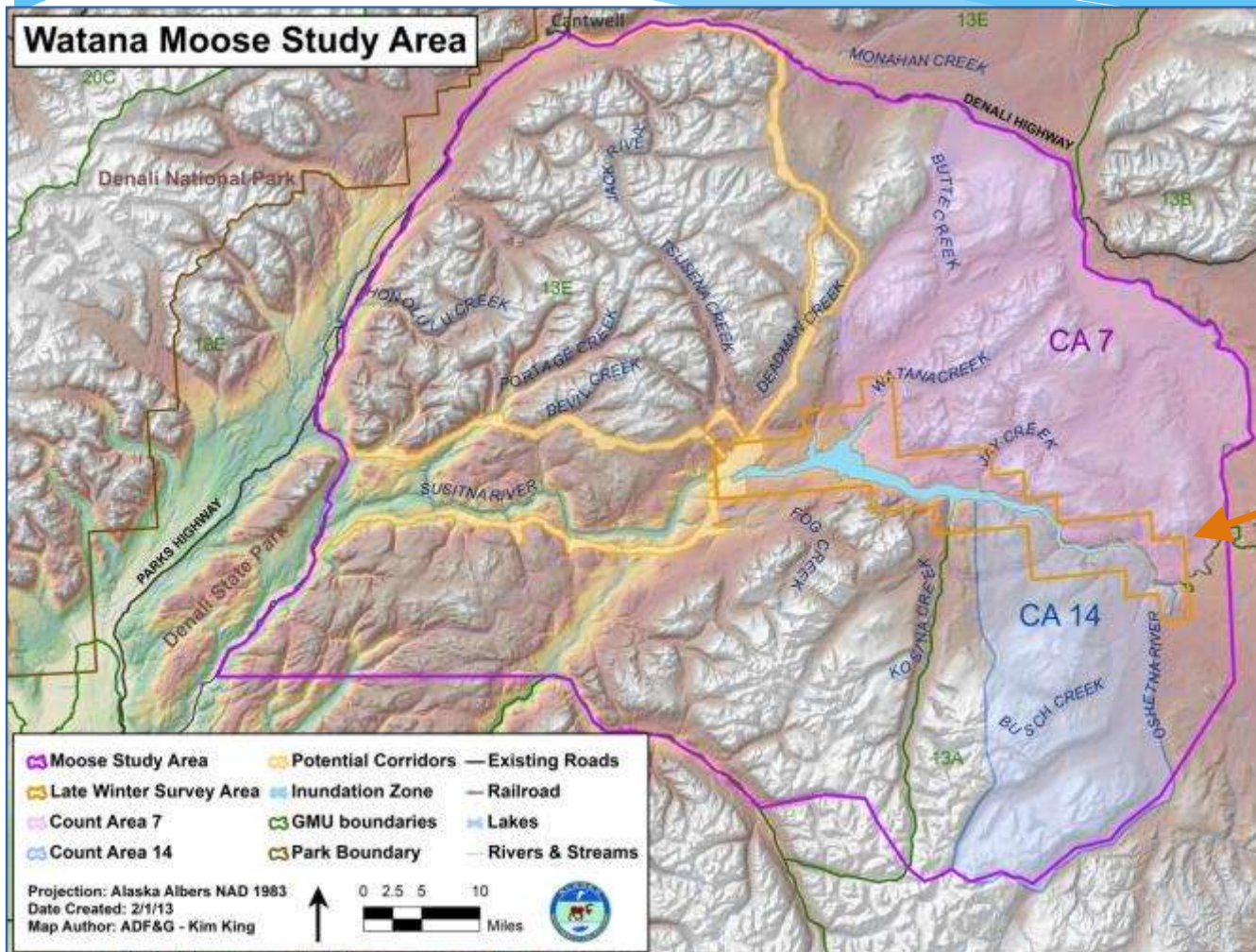
A moose GeoSpatial Population Estimation (GSPE) Survey is planned for Fall 2013.



We will survey traditional Count Areas (CAs) 7 and 14 annually.



ADF&G is conducting later winter surveys in the proposed inundation zone in March.



ADF&G will conduct moose twinning surveys in May to assess productivity.



Also weighed calves during captures

Browse Surveys in March will be used to calculate the % biomass consumed by moose in the Project vicinity.



**Examples of
moose browse**

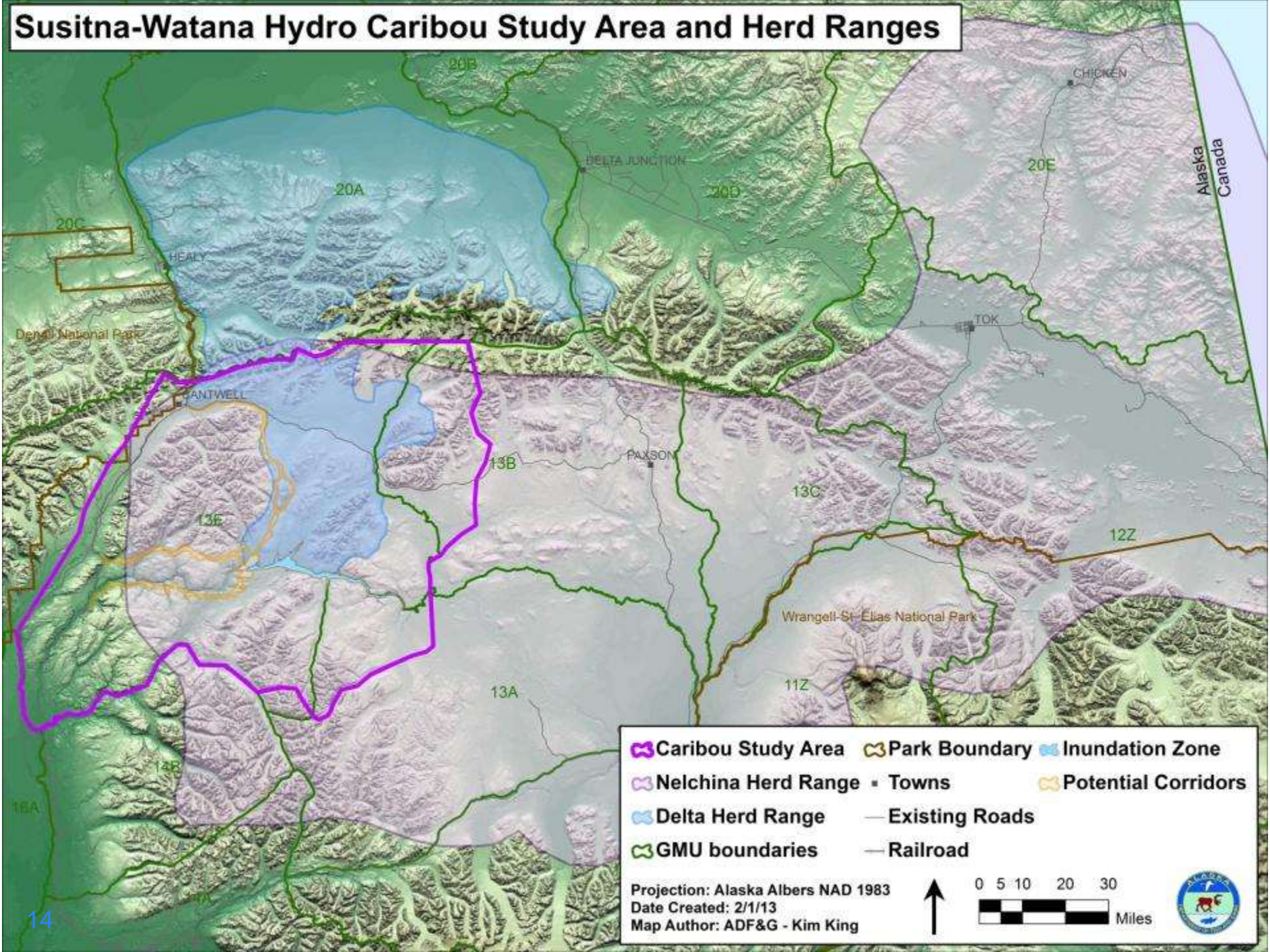
ADF&G is monitoring the distribution, abundance, movements, and productivity of Nelchina and Delta **caribou** in the Project vicinity.

This study involves:

- Monthly Telemetry of VHF Radio collars
- Monitoring ARGOS Satellite-linked GPS collars
- Calving Surveys

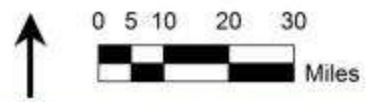


Susitna-Watana Hydro Caribou Study Area and Herd Ranges



- ⬭ Caribou Study Area ⬭ Park Boundary ⬭ Inundation Zone
- ⬭ Nelchina Herd Range ▪ Towns ⬭ Potential Corridors
- ⬭ Delta Herd Range — Existing Roads
- ⬭ GMU boundaries — Railroad

Projection: Alaska Albers NAD 1983
 Date Created: 2/1/13
 Map Author: ADF&G - Kim King



90 Caribou VHF
and Satellite
Collars were
deployed in 2012.



Photo by Kim King ADF&G



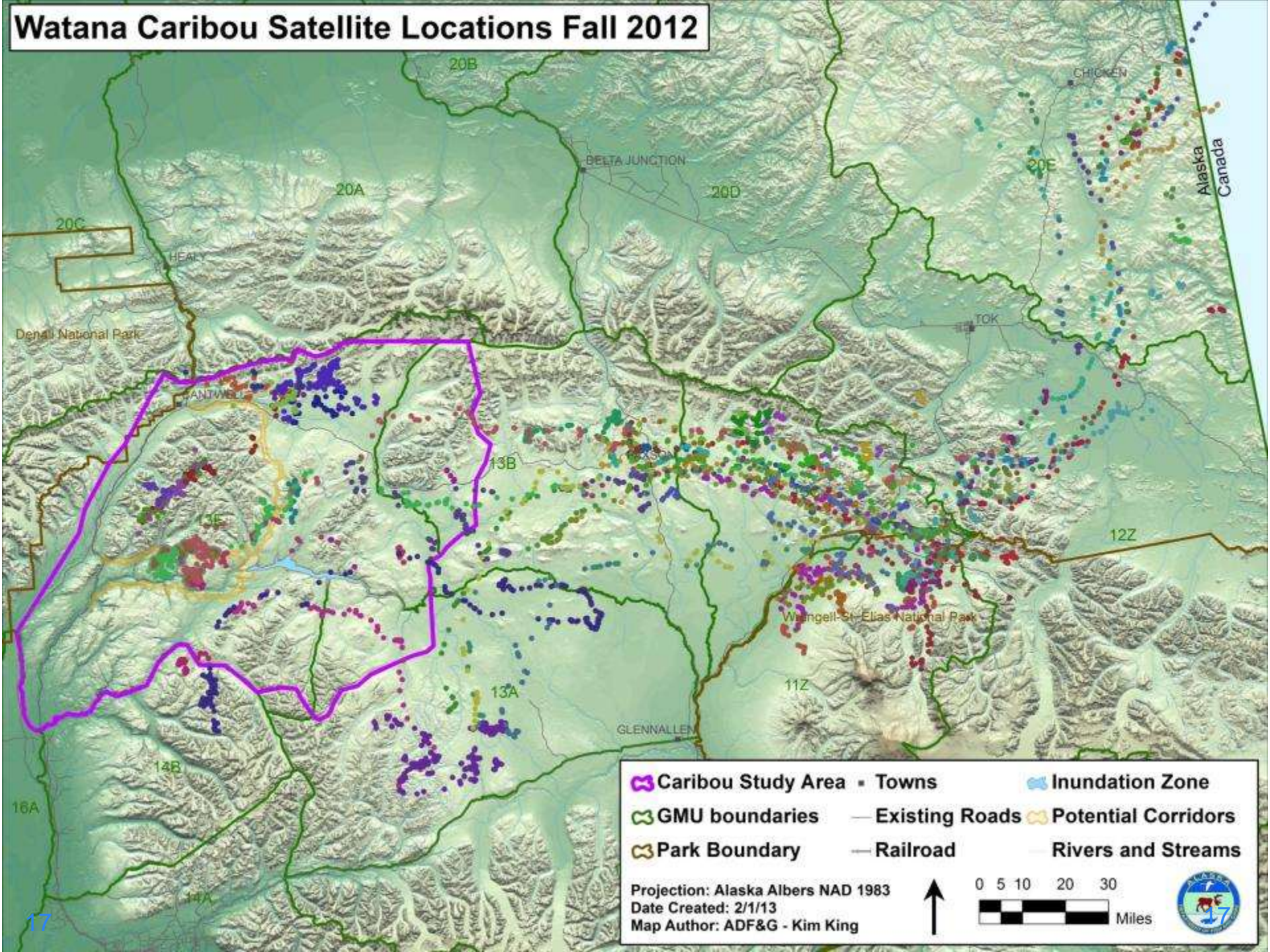
Photo by Kim King ADF&G

Collar Type	Sex	Apr 2012	Oct 2012	Total
VHF	Bulls	15	15	30
	Cows	0	0	0
GPS	Bulls	8	10	18
	Cows	0	42	42
TOTAL		23	67	90

Table 2 - Caribou Radiotracking Flights May – November 2012

Dates	Season	# Caribou Collared	Total Located	# in Study Area	# in Rest of GMU 13	Flight Area/ Plan
May 25-30	calving	168	106	94	12	GMU 13 west
June 10-13	summer	168	96	95	1	study area
June 22-23	summer	167	105	67	38	GMU 13 west
July 14-16	summer	167	113	110	2	study area
Aug 5-6	fall migration	166	105	51	54	GMU 13
Aug 21-24	fall migration	163	96	50	46	GMU 13
Sep 3-7	fall migration	162	50	50	0	study area
Sep 24-26	fall migration	161	97	58	39	GMU 13
Oct 8-9	fall migration	176	104	35	69	GMU 13
Nov 8-12	fall migration	241	43	20	23	VHF collars only

Watana Caribou Satellite Locations Fall 2012

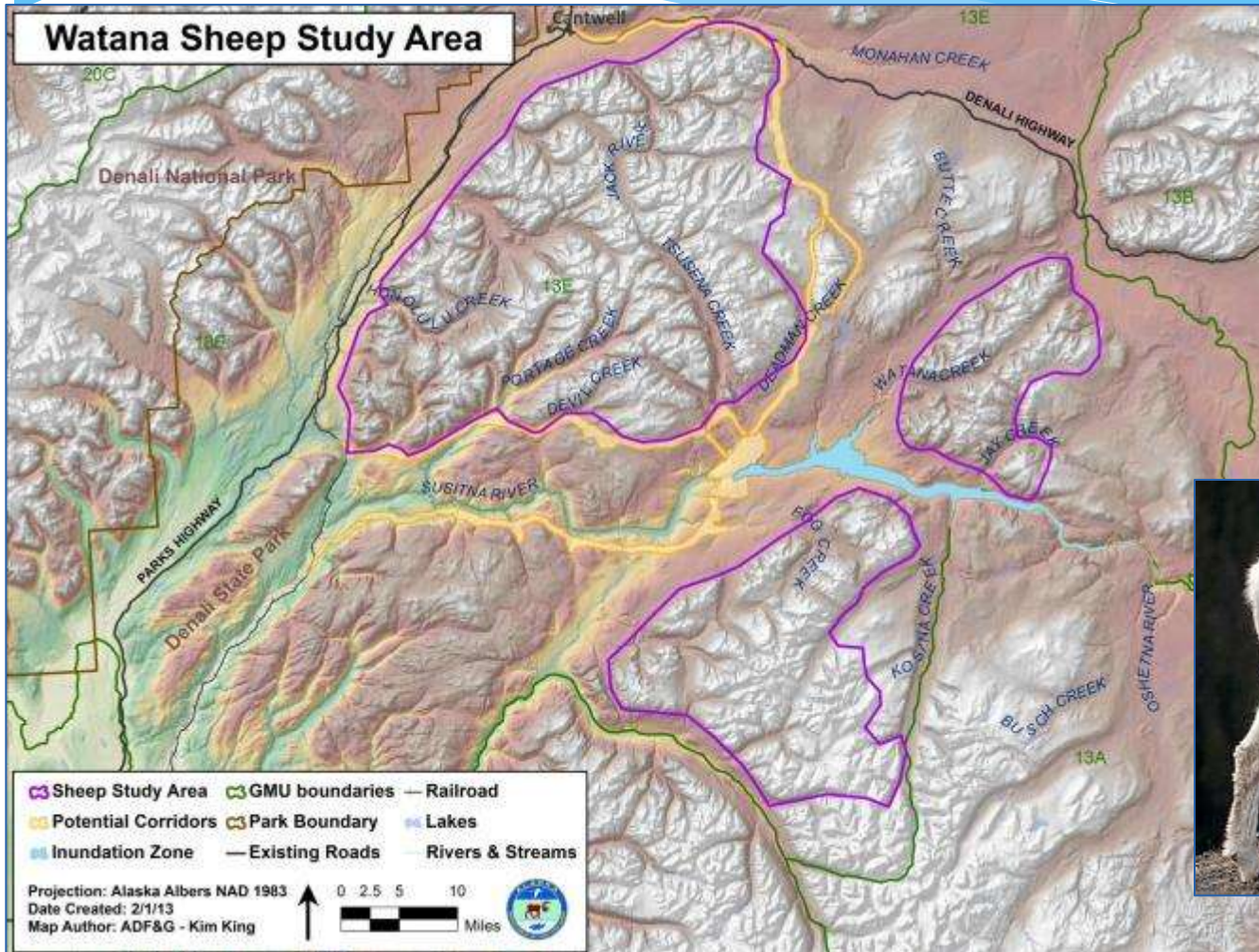


Caribou Study Area	Towns	Inundation Zone
GMU boundaries	Existing Roads	Potential Corridors
Park Boundary	Railroad	Rivers and Streams

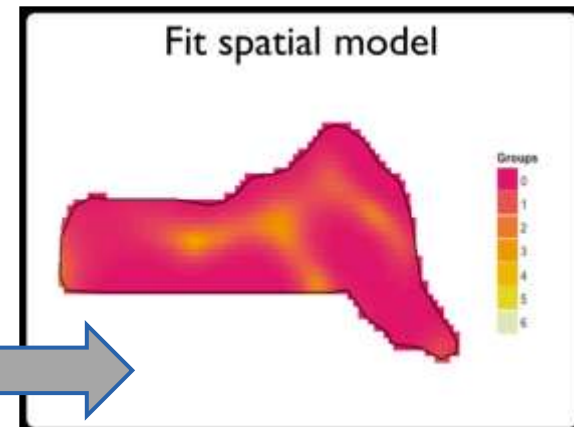
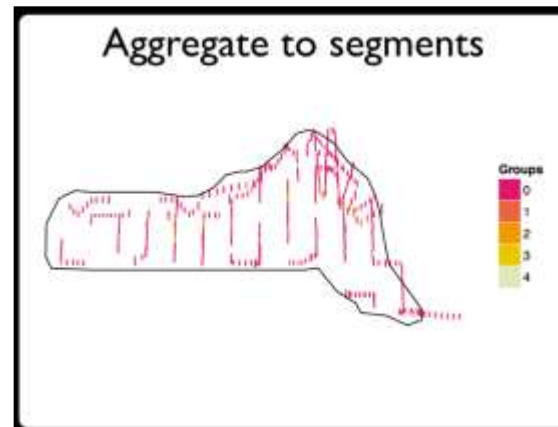
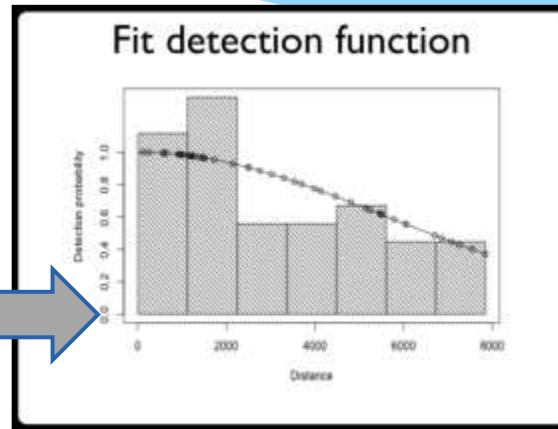
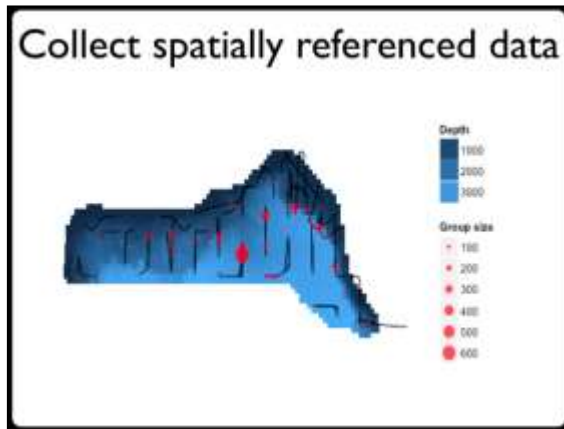
Projection: Alaska Albers NAD 1983
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0 5 10 20 30
 Miles

ADF&G will fly a survey of all suitable Dall's Sheep habitat in the Project vicinity.

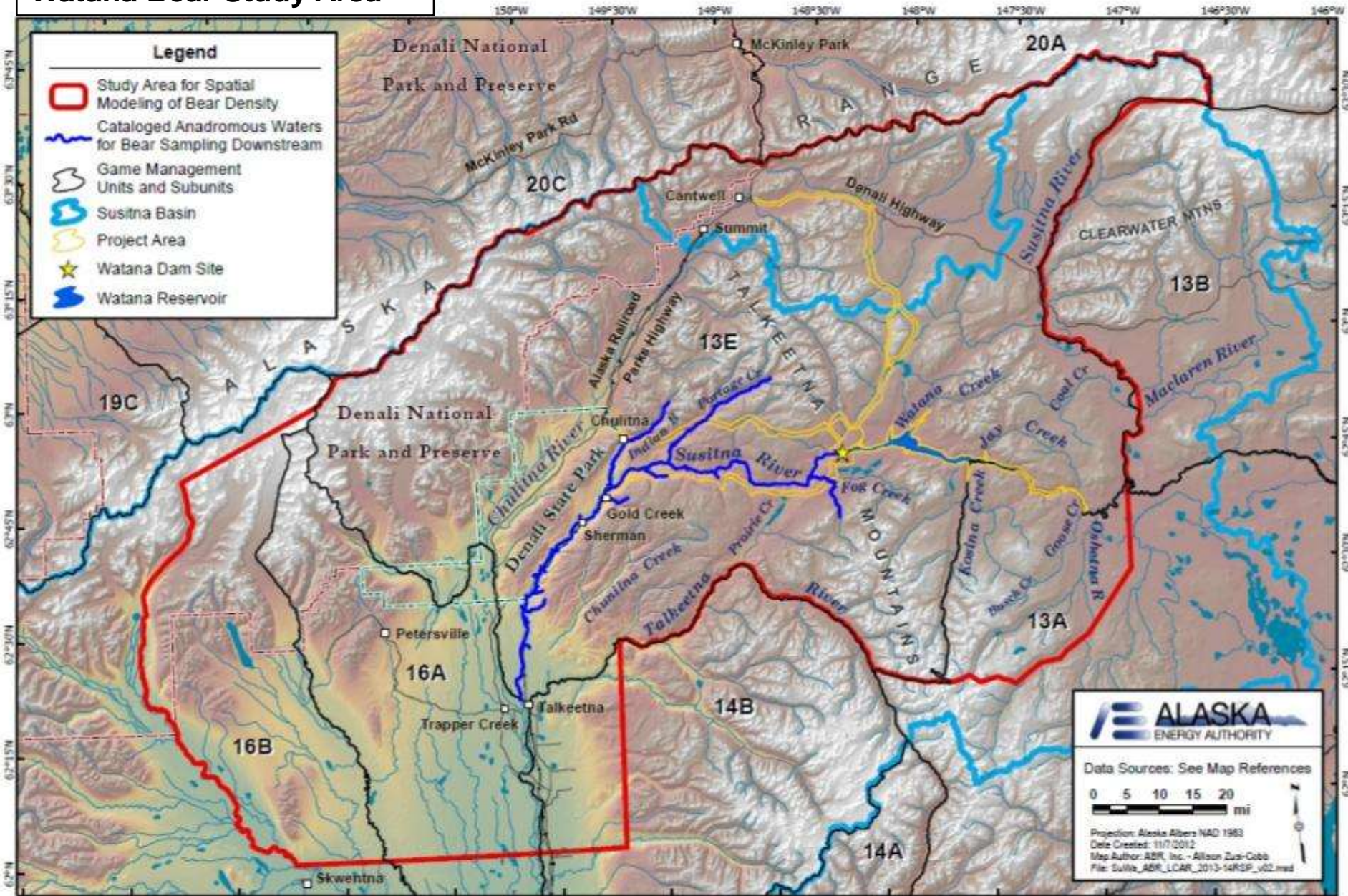


Spatial-line transect modeling will be used to estimate bear populations in the Project vicinity from ADF&G 2000-2004 data.



Spatial density surface estimation from distance sampling surveys
David L. Miller, Len Thomas, Laura Marshall

Watana Bear Study Area



One hundred twenty **ptarmigan** radio collars will be deployed in May 2013.



Looking downstream from the proposed dam site

Mount McKinley

